

AMENDMENTS TO THE CLAIMS (NONE)

1. (Withdrawn) A plasma reactor system for very fast etching of silicon or epoxy resins, comprising:

a chamber containing a wafer-holding pedestal;

a vacuum pump connected to the chamber for exhausting gas from the chamber through a pressure regulation valve;

a showerhead electrode positioned substantially parallel to the pedestal and at a distance less than 6 mm from it for injecting gas into the volume between pedestal and showerhead;

means for providing gases containing fluorine and/or oxygen to the showerhead electrode;

an RF power source connected to the pedestal and/or to the showerhead electrode; and

means for controlling the pressure inside the chamber to a level greater than 1.5 Torr.

2. (Withdrawn) The reactor of Claim 1 wherein the ratio of the RF power provided between the showerhead electrode and the pedestal to the gas pressure is greater than 1 Watt per cubic centimeter to each Torr of gas pressure.

3. (Original) A process for very fast etching of silicon or epoxy resins, comprising the steps of:

placing a wafer on a pedestal in a chamber;

exhausting gas from the chamber through a pressure regulation valve;

introducing a gas containing fluorine and/or oxygen into chamber through a showerhead electrode which is positioned substantially parallel to and less than 6 mm from the pedestal;

applying RF power to the pedestal and/or the showerhead electrode; and

maintaining the pressure inside the chamber at a level greater than 1.5 Torr.

4. (Original) The process of Claim 3 wherein the ratio of the RF power provided between the showerhead electrode and the pedestal to the gas pressure is greater than 1 Watt per cubic centimeter to each Torr of gas pressure.